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Wilson Bros & Co  
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Philadelphia Steam Supply  
Company.







# PHILADELPHIA STEAM SUPPLY COMPANY.

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CHARTERED 1882.

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Has purchased exclusive right to the Holly Steam  
Combination System for the City of Philadelphia.

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PRESIDENT, . . . . WM. H. BERRY.

SECRETARY AND TREASURER, . WINTHROP SMITH.

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## DIRECTORS:

WILLIAM H. BERRY, . . . . of Philadelphia.

EDWARD HOOPES, . . . . do.

CHARLES O. BAIRD, . . . . do.

CHARLES M. FOULKE, . . . . do.

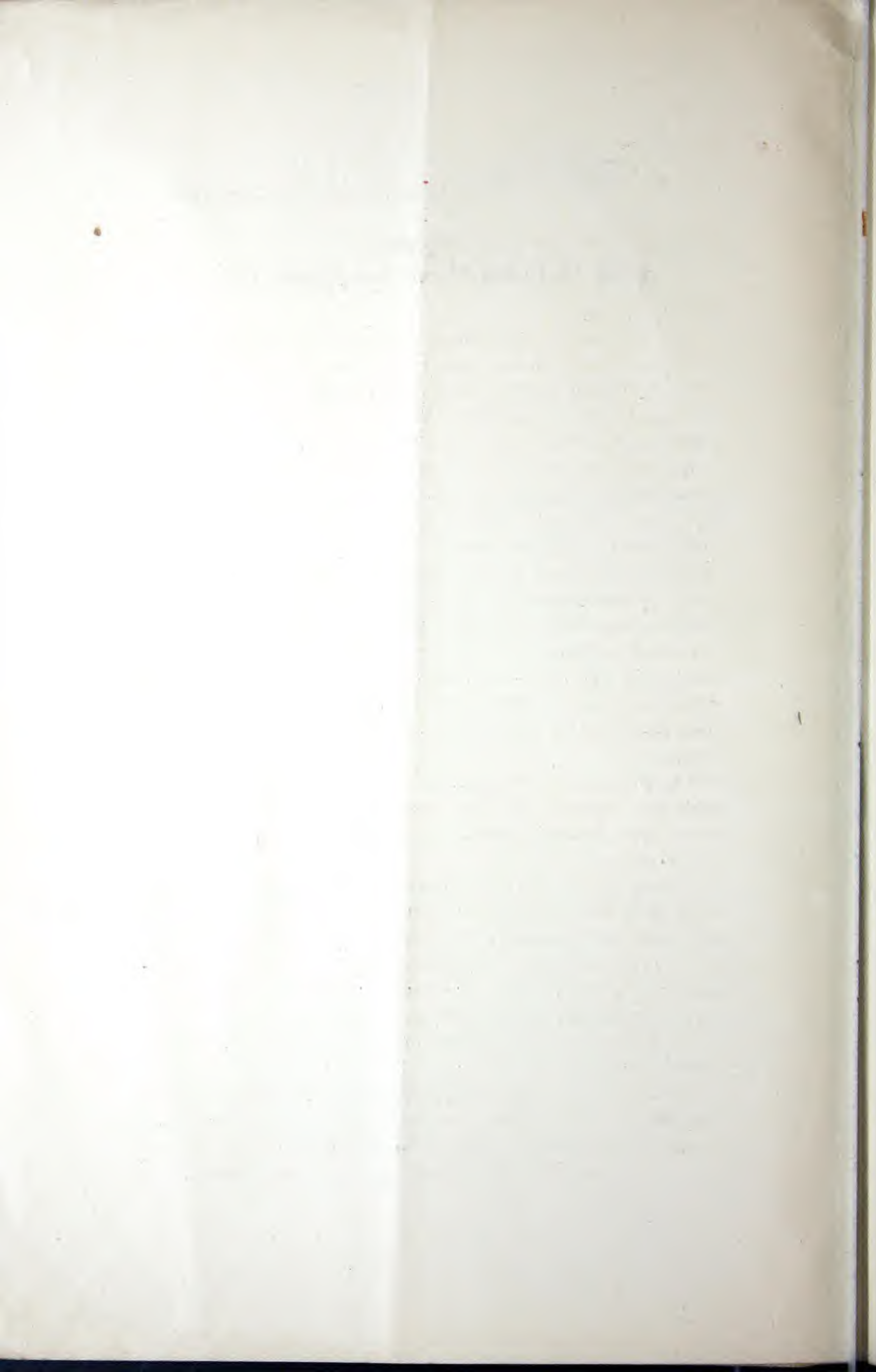
HENRY C. DAVIS, . . . . do.

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SOLICITORS: READ & PETTIT,

518 Walnut Street, Philadelphia.







PHILADELPHIA, *April 25, 1882.*

*To the President and Directors  
of the Philadelphia Steam Supply Co.*

GENTLEMEN,—

As requested by you we have personally visited and examined the works now in operation under the "Holly Steam Combination System" in the cities of Lockport, N. Y.; Lynn and Springfield, Mass.; and New Haven, Conn.; and shall be prepared to report at length when required.

At Lynn, on 8,335 feet of power main, we found thirty engines running, varying from 15 to 50 horse power, all working well, with very little variation of pressure between engines and boilers, although distant from each other. The same main also furnishes a large amount of steam for other purposes. In addition, there are about 10,000 feet of low pressure main for warming buildings. After the late disastrous boiler explosion in Lynn by which three persons were killed, a new engine was set and steam from the Holly System furnished within three days. We also found two other mills, which had been destroyed by boiler fires, rebuilt and now using "Holly" steam.

The Springfield Company is very successful in warming with low pressure on about two miles of pipe. Consumers there have discarded their own boilers and attached to the Holly mains.

In New Haven the steam has only been applied for a few days; their system is adapted both for warming buildings and for power, and is already connected with the 260 horse power Corliss engine erected for electric lighting. This is the latest plant put in by the Holly Company; it is thoroughly satisfactory to its owners and is to be immediately extended.

The Lockport system is the oldest and has been a success for several years.

Without going into details, the results of the examination are satisfactory. We find the system to be perfectly practicable and working well. There is nothing about it that is complicated, or that involves any elements of failure, and it seems to differ from



## THE HOLLY STEAM SYSTEM

in brief comprises a method of economically and safely conveying heat by steam through pipes from central stations to distant points, and of distributing it along the route for warming buildings or other purposes.

## THE LOSS BY CONDENSATION

in the mains is obviated by inclosing the pipes in new and efficient non-conductors.

## THE EXPANSION AND CONTRACTION

of the iron pipes is provided for by "The Junction Service Box" of Mr. Holly (see Plate I.) or the Variator of Mr. Emery.

From this the service pipes are taken to the buildings, within which is placed the "Regulator" (see Plate II.) The object of this device is to automatically reduce the pressure carried in the mains, to any pressure desired in the buildings.

Beyond the Regulator is

## THE METER

(see Plates II. and III.) which records the amount of steam in units passing through it, and from which bills are made as in the case of gas. By *this only reliable* means correct and proper relations are preserved between the producer and the consumer, each being enabled to calculate the precise profit and loss of steam consumed.

From the Meter steam is distributed to the radiators, laundry, bath, drying-rooms, and kitchen. A section of a building so arranged may be seen in Plate IV.

The steam condensed in the radiators, stoves, &c., is conveyed as hot water to the



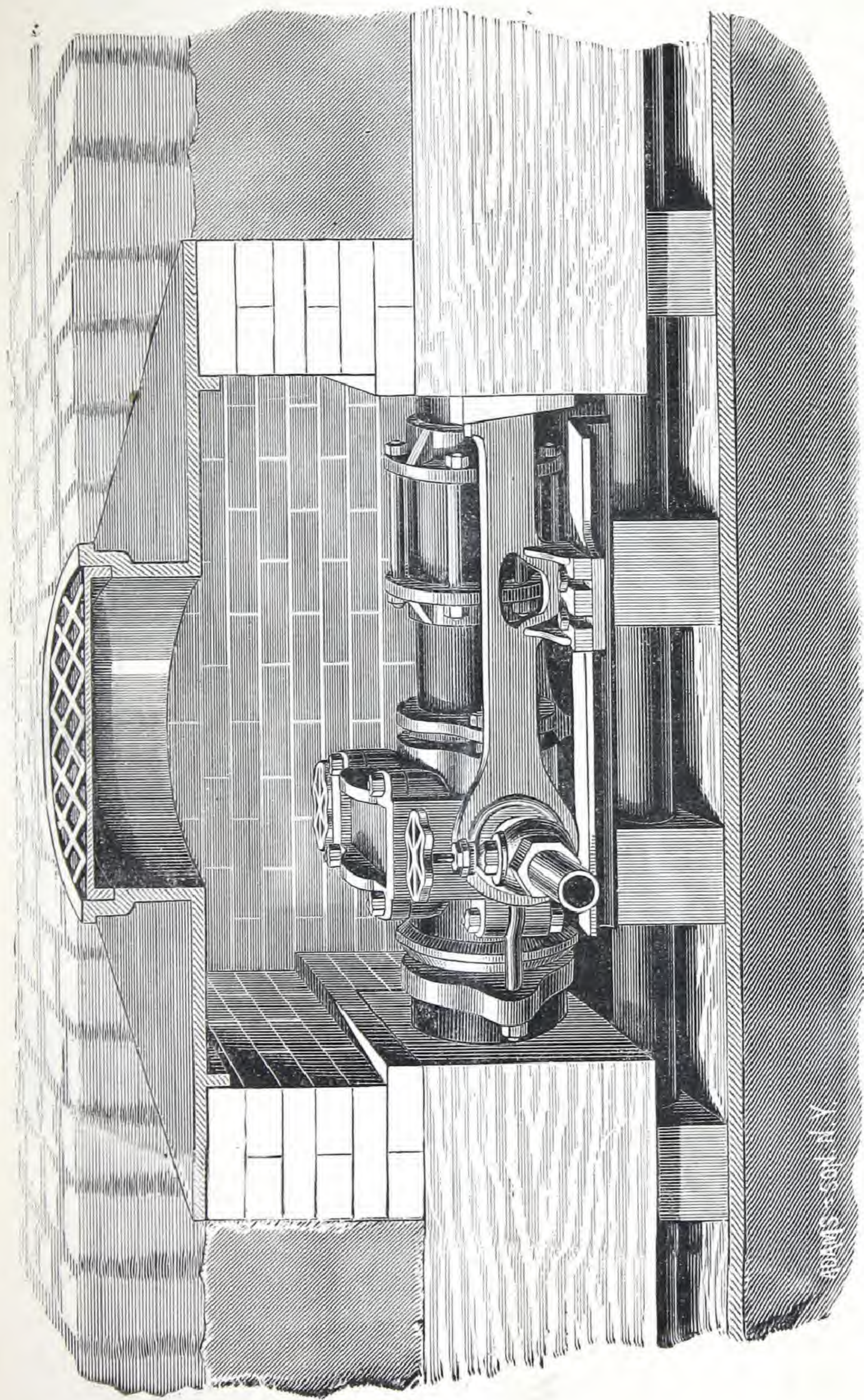


PLATE I.—JUNCTION SERVICE BOX FOR STREET MAINS, SHOWING WOOD PIPE-CASING, DRAINAGE TILE, MAN-HOLE COVER AND CURB.



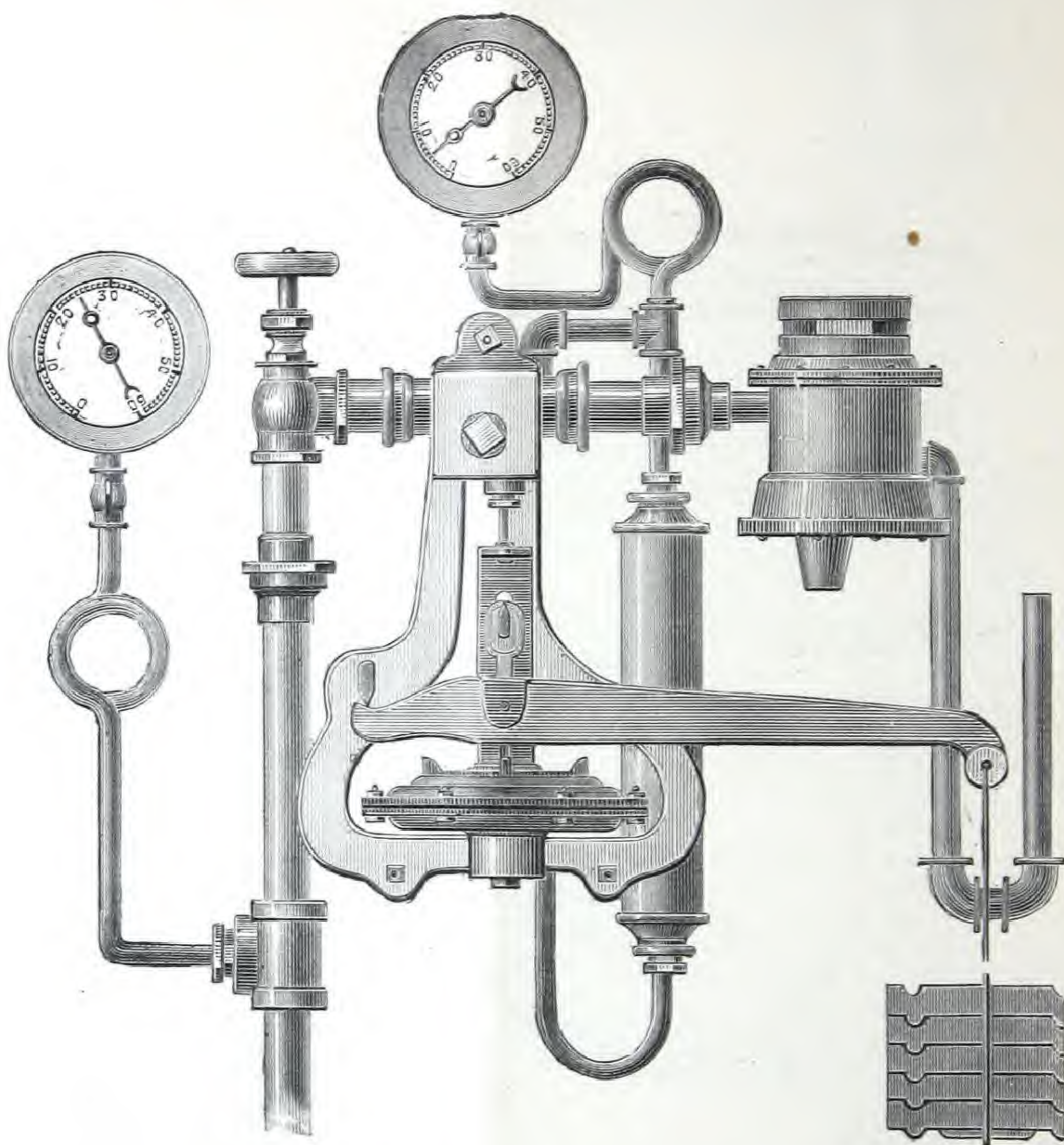


PLATE II.—REGULATING VALVE AND METER.



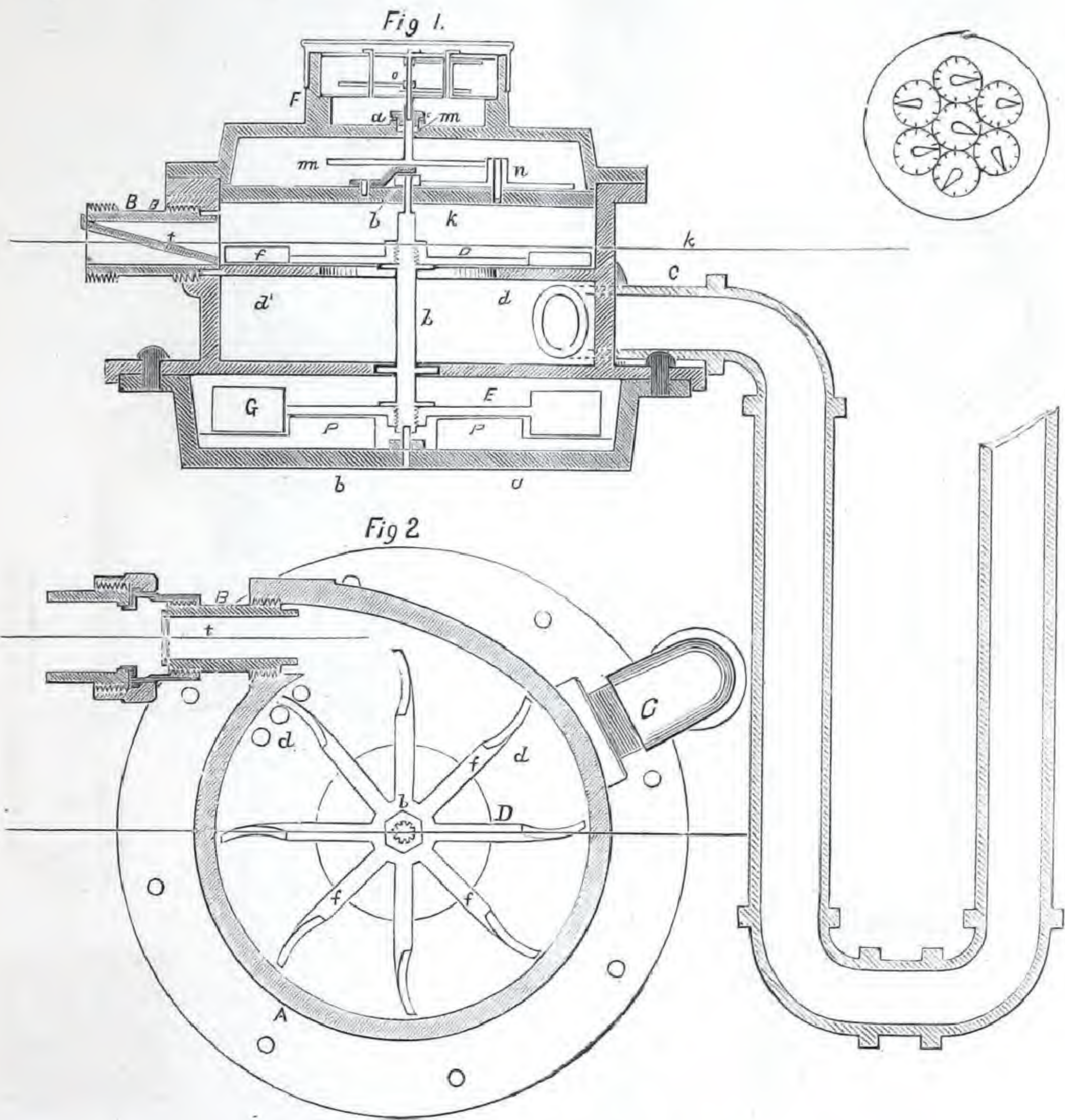


PLATE III.—SECTIONAL VIEW OF METER.



## STEAM TRAP (see Plate V.)

This together with the necessary coils are set in a brick chamber (shown also in Plate IV.) to which pure, cold air is admitted, which, absorbing the remaining heat from the water of condensation, is passed up into the halls as warm air, and the now cool distilled water is saved in cisterns for use, or discharged into the sewer.

There are other appliances for insuring a constant supply of hot water, regulating the temperature, &c, comprising altogether the most convenient, economical, healthful, and safest system of heating houses yet devised, and at the same time securing the most absolute cleanliness and a perfect system of ventilation, which is not true even of individual steam heating, or any form of furnaces or stoves.

## COOKING BY STEAM

is fully provided for by the "Superheated Steam Range" patented and owned by S. Silsbee (Plate VI.) and adopted by this Company. This simple and ingenious contribution to the District System of steam-heating promises a revolution in the culinary art, since by its means the operations of

## ROASTING, BROILING, BAKING, AND BOILING

animal or vegetable food are performed with a greater rapidity, excellence, and economy than by any other method in use.

In addition to the advantages named to the general householder, the system will be especially appreciated in districts where soft coal is used and the destructive and otherwise irremediable annoyances of soot, smoke, and ashes are completely abolished.

The steam is distributed through buildings by ordinary pipes, and any style of radiator may be used. Or the air may be warmed in a chamber of radiators underneath the house, and distributed through flues and registers in the ordinary manner.



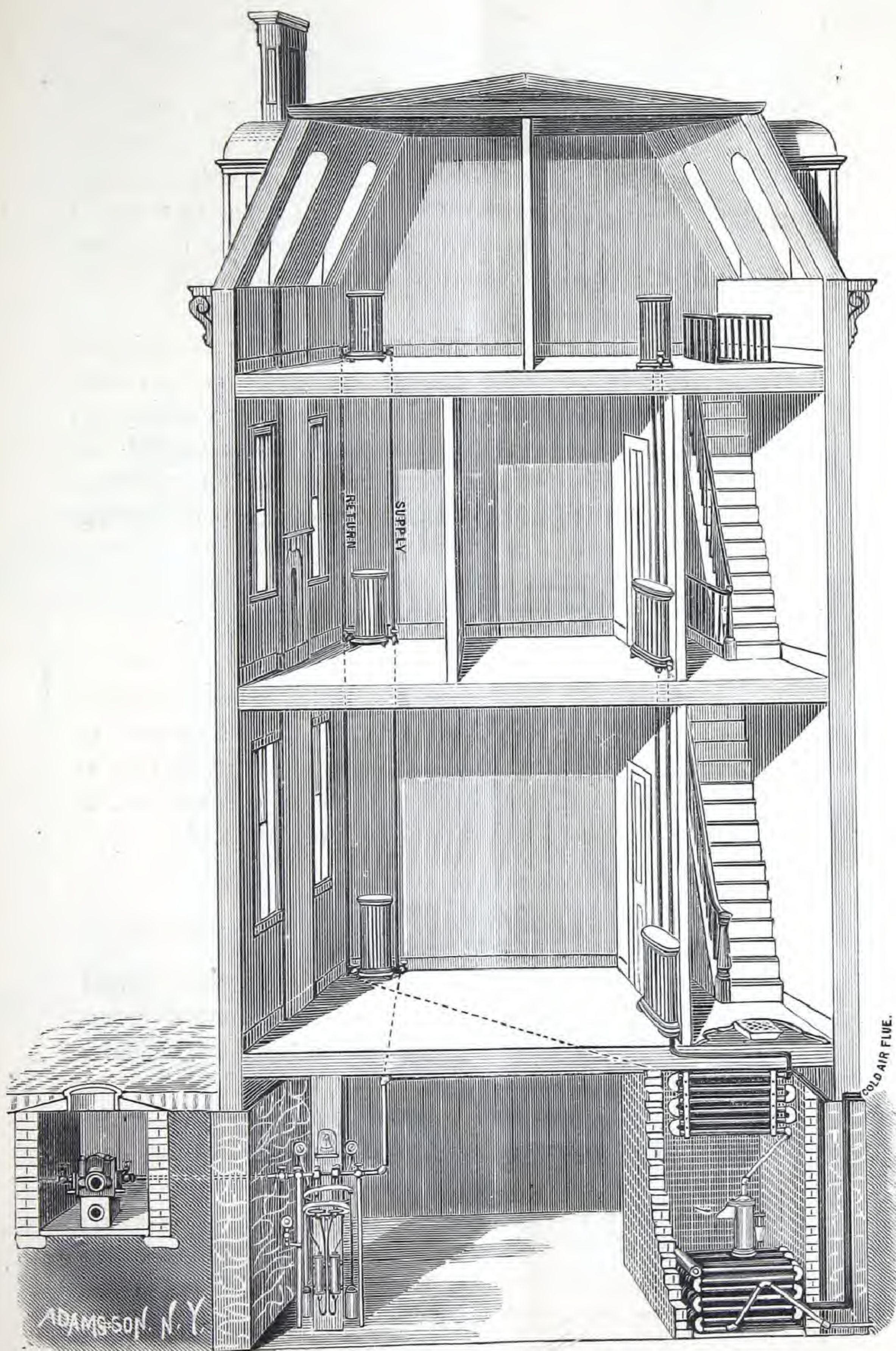


PLATE IV.—SECTIONAL VIEW OF BUILDING, SHOWING INDIRECT SYSTEM,  
REGULATING VALVE, &c.



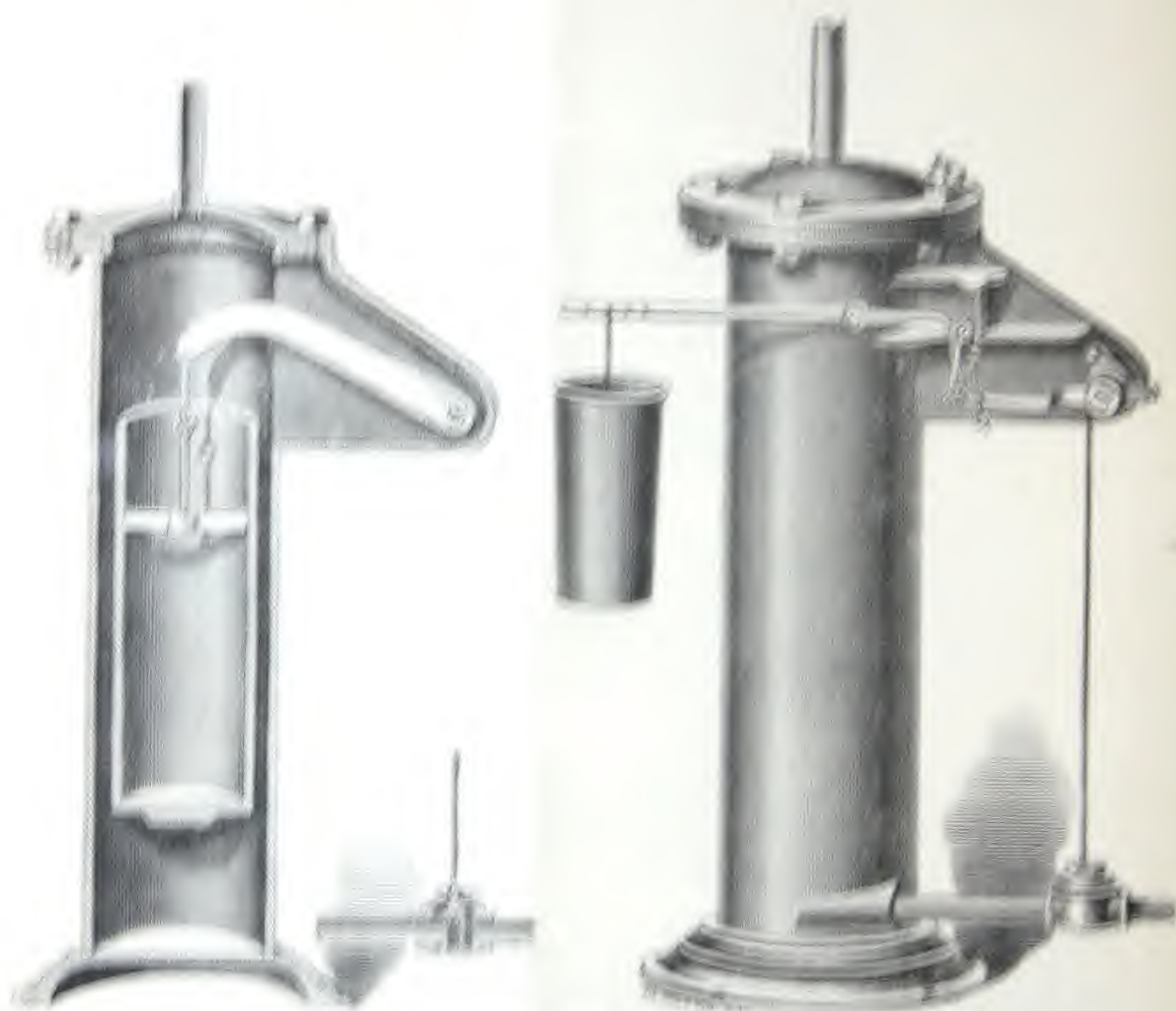
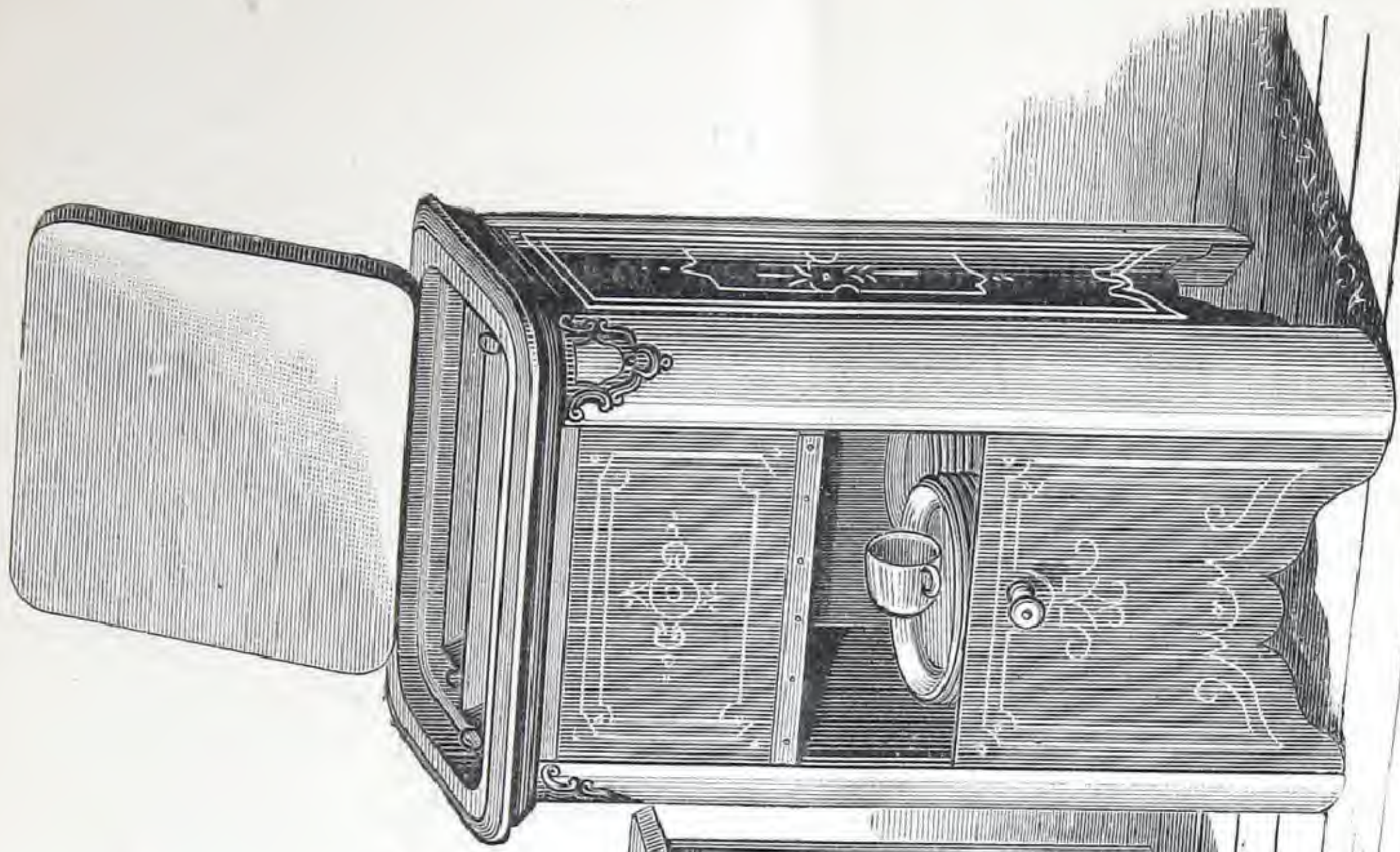
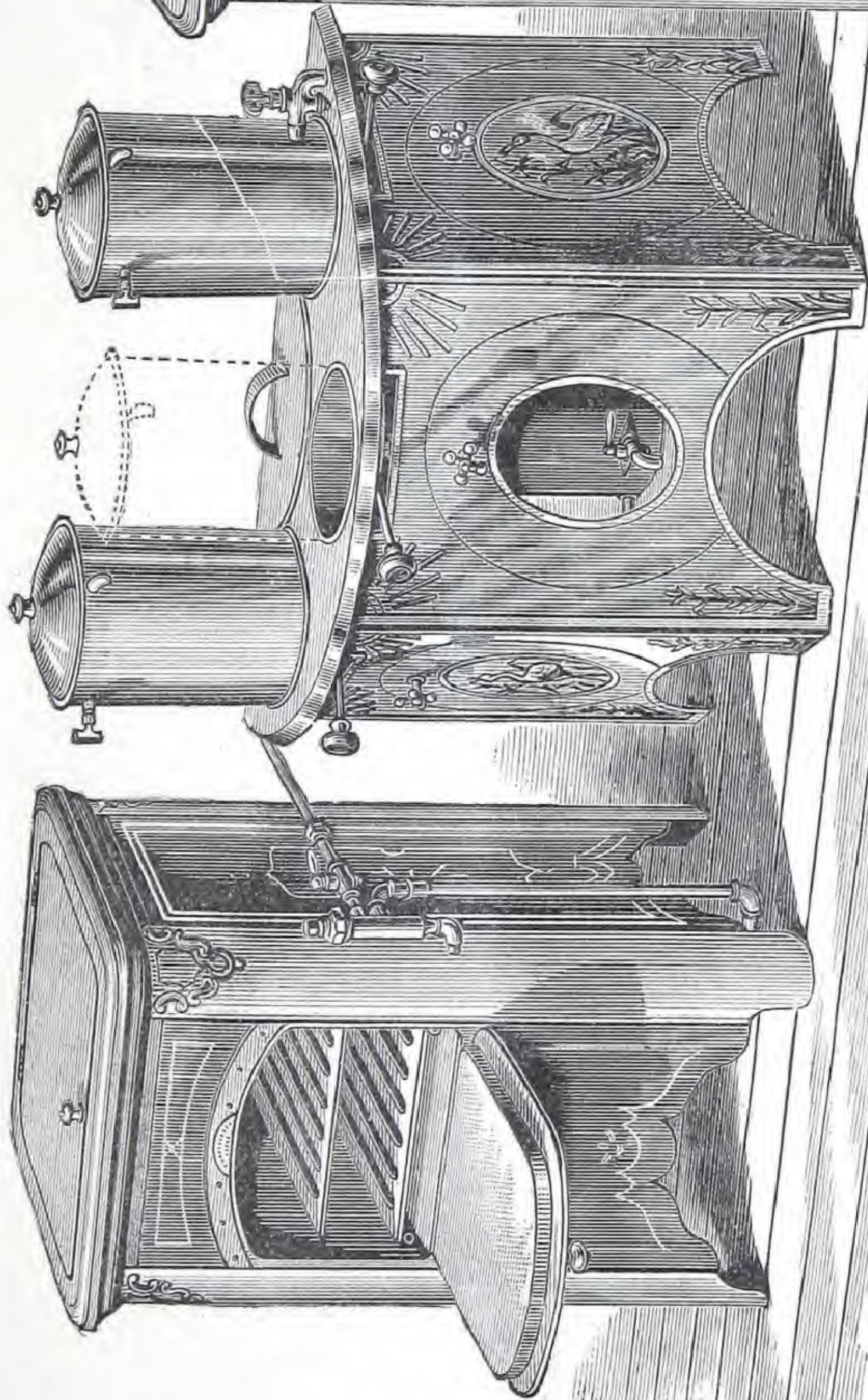


PLATE 5. STEAM ENGINE WITH ORIGINAL VIEW.

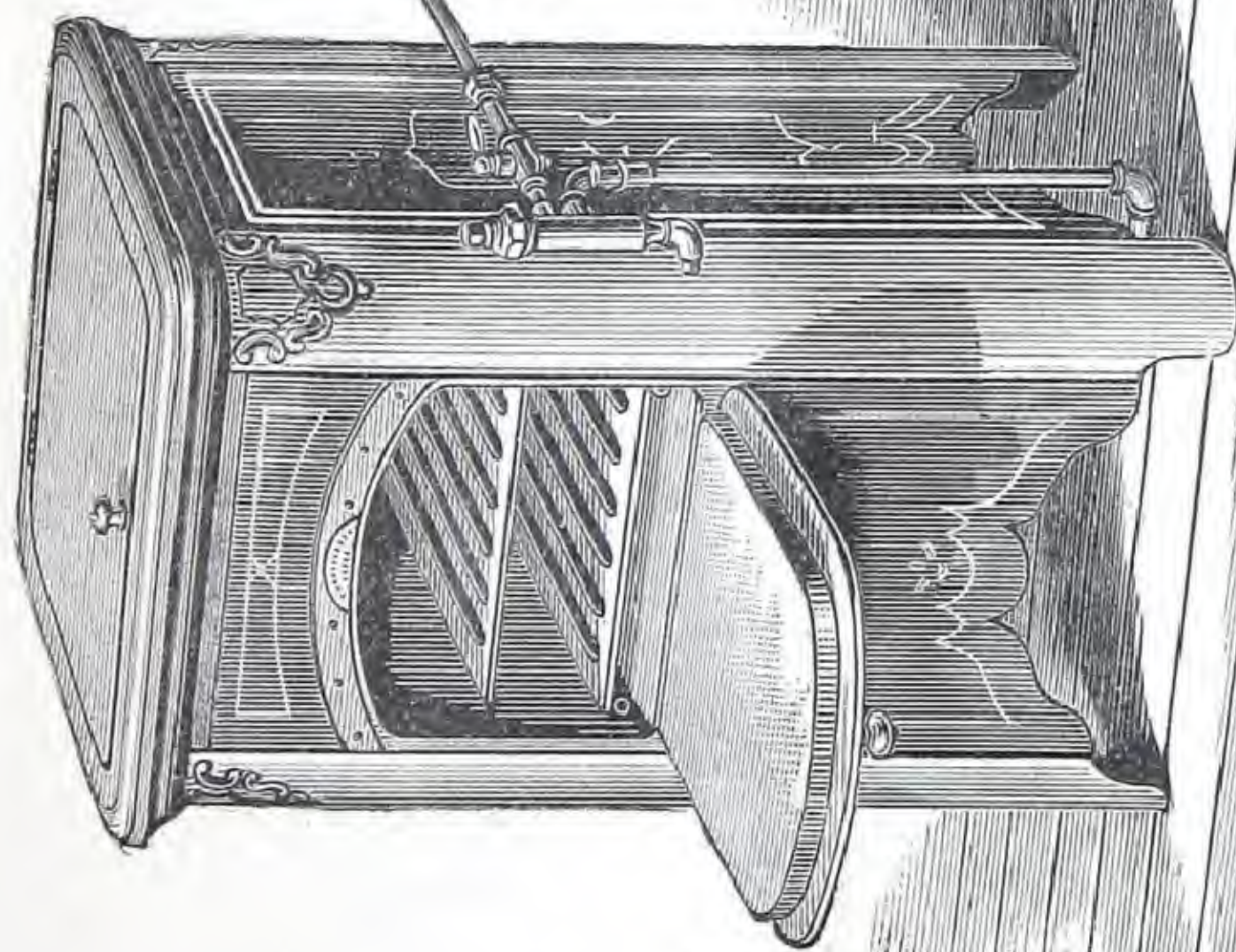




BROILER.



BOILERS.  
PLATE VI.—STEAM RANGE.



BAKER.



The fitting of an establishment to be heated by the Holly System, is much less expensive than the introduction of steam heat on the individual plan; as in the latter case, each house must have its own steam generating appliances, while in the former, a central battery of boilers supplies all the steam required for all purposes within a radius of miles. The steam is always at hand, and by turning a valve, night or day, the warmth or power desired can be immediately secured. It may also be turned to direct public advantage in cleansing the sewers, and in removing, by rapid melting, accumulations of snow and ice in the streets; and its adoption is inevitably followed by reduced fire risk and rates of insurance.

#### THE DOUBLE SYSTEM FOR HEATING AND POWER

is achieving very important results, and has proved by a critical trial in Lynn, Mass., on a large scale during and since the winter of 1880, a perfect success.

By this plan double mains are laid in one trench, one carrying steam at the pressure required for power, and the other for heating purposes; the heating main being supplied with the exhaust steam from the engines, also supplied with an automatic acting valve to regulate the pressure between the two mains.

The double system will be adopted in many of the cities of New England, and in all places where large and small power is to be run, thus enabling the companies to sell their steam twice; and to property owners within the district it will insure very important results in being able to utilize for light manufacture the vast amount of room now vacant in the upper stories of buildings. Acres of unoccupied floors will come into immediate use when a motor can be introduced so easily, and without a fire risk.

The American District Steam Company is now constructing the Double System for the Heat Supply Co. in the city of New Haven, Conn., in which enterprise some of the best business men of the State are engaged. The Electric Light Co. of that city has contracted its large power from that Steam Company.



In the numerous manufacturing cities and towns in Europe a wide field is open for the introduction of the Double System.

The Company is now prepared to contract for the construction of steam works in any part of the country with dispatch.

For further information apply at the offices of the Company, in Lockport, N. Y., or at 16 Cortlandt St., New York City.

#### AMERICAN PATENTS.

Original No.	Apparatus for supplying Districts in
193,086.	Cities and Towns with Heat and
D'd July 17, 1877.	Power.

No. 9,821.	The above reissued.	
D'd July 26, 1881.		55 Claims.

#### CASE B.

No. 193,085.	Improvement in Steam Generators for
July 17, 1877.	Warming Buildings, etc.

The above Pat. has 9 Claims.

Original No.	Improvement in Street Mains (anchorage).
193,088.	Reissue No. 9,730.
July 17, 1877.	Dated May 31, 1881.      2 Claims.



## CASE D.

No. 193,087. July 17, 1877.	Improvement in Meter Valves of Apparatus for Warming Dwellings, etc.	2 Claims.
No. 232,821. Oct. 5, 1880.	Steam Heating Radiators.	4 Claims.
No. 241,217. May 10, 1881.	Steam Meters.	6 Claims.
No. 246,952. Sept. 13, 1881.	Steam Pressure Regulators.	4 Claims.
Comprehensive Patents on the Double Power and Heat System are allowed, and will be issued soon.		
Three Canadian Patents, corresponding in general features to the American Patents.		

## ENGLISH PATENTS.

No. 2,303. May 25, 1881.	Improvements in Fluid Meters.
No. 2,774. June 25, 1881.	Improvements in Apparatus for supplying or distributing, utilizing, and measuring Steam for Heating, Motive-Power, and other purposes in Towns and other places.
No. 2,776. June 25, 1881.	Improvements in Apparatus for supplying or distributing Steam for Heating, Motive-Power, and other purposes in Towns and other places. This is the Double System.

## FRENCH AND BELGIAN PATENTS.

- No. 8. Letters Patent of France, dated May 25, 1881, granted and issued to the said Birdsill Holly, numbered 143,035. "Pour un système de compteur pour de mesurage des fluides."



No. 9. Letters Patent of France, dated June 25, 1881, granted and issued to the said Birdsill Holly, numbered 143,655. "Pour un appareil pour l'utilisation de la vapeur pour le chauffage et connue force motrice."

No. 10. Letters Patent of France, dated June 24, 1881, granted and issued to Birdsill Holly, numbered 143,635. "Pour des perfectionnements appertis aux appareils destinés à utiliser la vapeur pour le chauffage et autres usages."

No. 11. Letters Patent of Belgium, dated June 25, 1881, granted and issued to Birdsill Holly, numbered 55,011 B. (Same as Pat. No. 10 of list.)

No. 12. Letters Patent of Belgium, dated May 27, 1881, granted and issued to Birdsill Holly, numbered 54,747 B. (Same as Pat. No. 8, list.)

No. 13. Letters Patent of Belgium, dated June 27, 1881, numbered 55,027 B. (Same as Pat. No. 9, list.)

Two German Patents are allowed and will soon be issued.

Also five patents issued and passed for issue, and a number of inventions for which applications for patents are pending, developed by Mr. Emery, in connection with the work of The New York Steam Company, after careful study and experiment; which include several practical applications of the Diaphragm Expansion Joint or Variator, particularly valuable for use in large cities, and other details designed to perfect the Holly System.







